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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,321	08/01/2003	Joseph C. Sanda JR.	MIC-103 (P50-0082)	5222
27215 7590 04/19/2007 MICHELIN NORTH AMERICA, INC. INTELLECTUAL PROPERTY DEPARTMENT MARC BLDG 31-2 515 MICHELIN ROAD GREENVILLE, SC 29605			EXAMINER WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT	PAPER NUMBER
			1714	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/632,321

Applicant(s)

SANDA, JOSEPH C.

Examiner

Katarzyna Wyrozewski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11 and 13-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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In view of applicant's request for continuing prosecution following office action is issued. The application has been transferred to Primary Examiner Katarzyna Wyrozebski, since Examiner Poulos is no longer at the Patent Office.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 11, 13-17 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection of new matter stated in the final office action dated 1/26/2007 is incorporated here by reference. As a short re-cap, examiner rejected the claims since the specification did not teach the ranges incorporated into the claims amount of A and B as well as ground rubber.

Newly amended claims further incorporate another new matter rejection this time directed to the non-aqueous puncture sealing composition. Term "non-aqueous" any other term that would even remotely indicate that applicants do not utilized water in the composition has not

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been found. The applicants further have not provided any page or line number in the specification that would support such statement. The cited phraseology clearly signifies a “negative” or “exclusionary” limitation for which the applicants have no support in the original disclosure. Negative limitations in a claim which do not appear in the specification as filed introduce new concepts and violate the description requirement of 35 USC 112, first paragraph, *Ex Parte Grasselli, Suresh, and Miller*, 231 USPQ 393, 394 (Bd. Pat. App. and Inter. 1983); 783 F. 2d 453.

The insertion of the above phraseology as described above positively excludes water or aqueous medium, however, there is no support in the present specification for such exclusions. While the present specification is silent with respect to the use of water or aqueous medium, is noted that as stated in MPEP 2173.05(i), the “mere absence of a positive recitation is not the basis for an exclusion.”

Claim 15 contains negative limitation that is also not present in the claims. The claim was previously presented but the rejection has not been stated. Term “not subjected to the surface treatment” is not supported in the specification. *Ex Parte Grasselli*, as indicated above also applies.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-6, 11, 13-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1, line 5 recites limitation of molecular weight less than about 50,000 and such limitation renders claim indefinite for two reasons:

- 1) Term “molecular weight” in itself is not clear since the claim does not indicate if applicants disclose number average molecular weight, weight average molecular weight or other.
- 2) Term “less than about” also renders claim indefinite since term “less than” allows for values lower than 50,000 while term “about” allows values slightly higher than 50,000 and which values are excluded by first term.

Claim 1 also recites limitation of molecular weight greater than about 50,000, which also renders claim indefinite virtually for the same reasons as 1) and 2) except that in two term “greater than” excludes amounts lower than 50,000.

Claim 2 is considered indefinite since it is not clear as to which rubber the applicants are referring two. Both rubbers A and B are liquid.

Claim 5 discloses subject matter not clearly defined by the specification. Claim 5 is in a product by process form, where the patentable weight is given to the product and not to the process by which the rubber was obtained.

Claim 5 also discloses that component B is solid rubber, which further is opposite to what claim 1 requires, i.e., liquid rubber.

Anticipation rejection of SANDA is applied since the amount of rubber crumb is less than 5 wt %. The term “greater than zero” is new matter. Second rejection is made that considers presence of rubber crumb.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, 13, 14, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by SANDA (US 5,295,525).

The prior art of SANDA discloses a sealing puncture composition for high pressure tubless tire.

Composition comprises two elastomers, both liquid, one being high molecular weight and the second low molecular weight. Table in col. 11, lines 35-40 is just one of the examples that discloses a major part made up of high molecular weight polymer and minor part made up of low molecular weight.

Low molecular weight, as per definition given in SANDA (col. 3, lines 10-15 and 52-53) molecular weight is in a range of 1,000-100,000, Brookfield viscosity is 3000-5000 Poise. Conversion of units of viscosity using ProKon software shows that the viscosity of the low molecular rubber of the present invention is equivalent to 200-20,000 Poise. The low molecular rubber of SANDA has molecular weight fully within the bounds of the present invention. Examples of low molecular weight rubber is depolymerized natural rubber (col. 3, line 61), cis-polyisoprene, polybutene, butyl rubber (col. 4, lines 9, 61, 67).

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High molecular weight rubber as defined in SANDA (Col. 2, lines 41-68 and top of col. 3) has molecular weight greater than 50,000 and preferably greater than 60,000 and Mooney viscosity in a range of 20-160 ML-4 at 212°F. Examples of HMW liquid rubber include polyisoprene (natural or synthetic), polybutadiene, EPDM and the like.

Curing agents are listed in col. 6, lines 37-48 and are selected from following (including amounts):

2-10 phr of titanate ester, or

0.1-1.5 phr of peroxide, or

0.5-2 phr of sulfur compound, and

0.5-2 phr of quinoid containing compound.

Preferred curative system is titanate ester.

Tackifying agents is selected from tackifiers or plasticers such as rosin esters, aliphatic petroleum hydrocarbon resins, polyterpene resins, dicyclopentadiene resins, and those prepared by the reaction of mineral oil purification residue with formaldehyde and nitric acid catalyst (col. 7, lines 30-45).

One of the processes utilized to make the sealant composition comprises a step of making cement in solution of N-hexane (col. 8, lines 25-28) or other volatile solvent and injecting the composition into the tire.

In the light of the above disclosure the prior art of SANDA anticipates claims rejected above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-6, 11, 13, 14, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over SANDA (US 5,295,525) in view of WONG (US 5,856,376).

The discussion of SANDA from paragraph 6 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of SANDA is recitation of the ground rubber.

With respect to the above difference, the prior art of WANG also discloses composition for tire sealant containing 3-6 wt % of rubber crumb. The rubber crumb is pretreated in order to improve dispersion of the crumb in the composition (Abstract), however this is only a preferred

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embodiment. The particle size of the rubber crumb in WONG is in a range of 100 mesh, 60 mesh and 40 mesh (col. 3, lines 1-45). The different particle size allows smaller particles fit in between the voids of the larger particles filling the puncture hole more effectively.

The rubber crumb is utilized in sealant composition for two reasons. One, as a solid it can modify viscosity of the sealant composition and two, it can fill the voids of the puncture hole more efficiently regardless what the other components of the composition are.

In the light of the above disclosure it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the rubber crumb of WONG in the teachings of SANDA and thereby obtain the claimed invention. Use of rubber crumb in the disclosure of SANDA would have the same effect. In addition, selection of a known material based on its suitability for its intended use supports *prima facie* obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.* 325 U.S. 327, 65 USPQ 297 (1945).

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over SANDA (US 5,295,525) in view of WONG (US 5,856,376) as applied to claims 1-6, 11, 13, 14, 16, 17 above, and further in view of BOURNE (US 4,216,812).

The discussion of the disclosure of the prior art of SANDA and WONG from paragraph 9 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of SANDA and WONG is recitation of untreated rubber crumb.

With respect to the above difference, the prior art of BOURNE in fact shows that the untreated rubber particles would still work and provide efficient puncture sealant for tires.

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In the light of the above disclosure it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize untreated particles of rubber, since such particles are also shown to provide an effective sealant composition.

11. Following disclosures were found but do not apply against present claims as a prior art: ELLAESSER (US 2007/0015850), DALY (US 2005/0277712) and SERRA (US 2006/0005909).

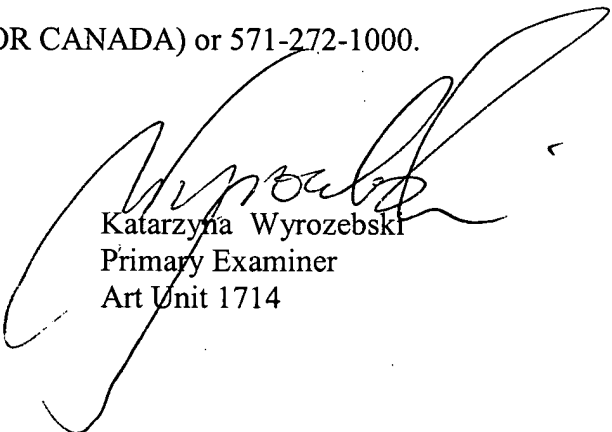
12. Applicants arguments dated 4/7/2007 are considered moot, since new prior art has been applied.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Katarzyna Wyrozebski
Primary Examiner
Art Unit 1714

April 16, 2007